

CLAIMS

1 1. A graphics system comprising:
2 a depth buffer device to store at least one variable-formatable floating point number relating to
3 a depth of a pixel of an image; and
4 a first processing device to perform a depth test by comparing a value associated with a
5 current pixel to a value associated with a corresponding pixel stored in said depth buffer device.

1 2. The system of claim 1, wherein said depth buffer device stores at least a value relating
2 to a W value of each pixel of said image.

1 3. The system of claim 1, further comprising a second processing device to calculate a
2 number of fraction bits of said variable-formatable floating point number.

1 4. The system of claim 3, further comprising at least one register to store the calculated
2 number of fraction bits.

1 5. The system of claim 1, wherein said first processing device compares a W/Wfar value
2 of said current pixel with a W/Wfar value of the corresponding pixel stored in said depth buffer device.

1 6. The system of claim 1, further comprising a display device to display an image based
2 on a result of said depth test.

1 7. A system comprising:
2 a depth buffer device to store at least a value relating to a pixel of an image; and
3 a processing device to determine a format of said value stored in said depth buffer device and
4 to perform a depth test for pixels in said image based on values stored within said depth buffer device.

1 8. The system of claim 7, wherein said depth buffer device stores at least a value relating
2 to a W value of each pixel.

1 9. The system of claim 7, wherein said value comprises a floating point number.

1 10. The system of claim 9, wherein said floating point number comprises a variable-
2 formatable floating point number.

1 11. The system of claim 7, wherein said processing device calculates a number of fraction
2 bits of said floating point number.

1 12. The system of claim 11, further comprising at least one register to store the calculated
2 number of fraction bits.

1 13. The system of claim 7, wherein said processing device compares a W/Wfar value of a
2 current pixel with a W/Wfar value of the corresponding pixel stored in said depth buffer device.

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1 14. The system of claim 7, further comprising a display device to display an image based
2 on a result of said depth test.

1 15. A method comprising:
2 determining a format of a depth buffer device;
3 storing a value associated with a pixel of an image in said depth buffer device based on the
4 determined format of said depth buffer device; and
5 comparing a value associated with a current pixel to said value stored in said depth buffer
6 device in said determined format.

1 16. The method of claim 15, wherein determining said format comprises calculating a
2 number of fraction bits of a floating point number.

1 17. The method of claim 16, further comprising storing said calculated number of fraction
2 bits in a register.

1 18. The method of claim 17, wherein said stored value is based on said calculated number
2 of fraction bits stored in said register.

1 19. The method of claim 15, further comprising displaying an image based on said
2 comparison.

1 20. The method of claim 15, wherein said stored value in said depth buffer device relates
2 to a W value of each pixel.

1 21. The method of claim 15, wherein said comparing comprises comparing a W/Wfar
2 value of said current pixel with a W/Wfar value of the corresponding pixel stored in said depth buffer
3 device.

1 22. A method of performing a depth test for an image, said method comprising:
2 calculating a number of fraction bits for a depth buffer device; and
3 storing a value of a current pixel in said depth buffer device in a format based on said
4 calculated number of fraction bits.

1 23. The method of claim 22, further comprising performing said depth test by comparing a
2 value associated with said current pixel to said value associated with a corresponding pixel stored in
3 said depth buffer device.

1 24. The method of claim 23, further comprising displaying said image based on said depth test.

1 25. The method of claim 23, wherein said comparing comprises comparing a W/Wfar
2 value of said current pixel with a W/Wfar value of the corresponding pixel stored in said depth buffer
3 device.

1 26. The method of claim 22, wherein said stored value in said depth buffer device relates
2 to a W value of one pixel of said image.

1 27. A program storage device readable by machine, tangibly embodying a program of
2 instructions executable by the machine to perform a method comprising:
3 determining a format of a depth buffer device; and
4 storing a value of said determined format.

1 28. The program storage device of claim 27, wherein said method further comprises:
2 storing a value associated with a pixel of an image in said depth buffer device based on the
3 determined format of said depth buffer device; and
4 comparing a value associated with a current pixel to said value stored in said depth buffer
5 device in said determined format.

1 29. The program storage device of claim 27, wherein determining said format comprises
2 calculating a number of fraction bits of a floating point number.

1 30. The program storage device of claim 29, wherein said stored value is based on said
2 calculated number of fraction bits.